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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,777	01/11/2001	Alan Shapiro	TAG-3.2.001/3658	1711

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EXAMINER

GRAHAM, CLEMENT B

ART UNIT PAPER NUMBER

3628

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/758,777

Applicant(s)

SHAPIRO, ALAN

Examiner

Clement B Graham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-7 9-17, 19, and 34-47, are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. In the present case, claims 1-7 9-17, 19, and 34-47, do not recite any structure or functionality to suggest that a computer performs the recited claims. Thus, claims 1-7 9-17, 19, and 34-47, are rejected as being directed to non-statutory subject matter.

Applicant's is advised to imbed a computer or processor in the body of the claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-47, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lupien et al (Hereinafter Lupien U.S Patent 6, 012, 046) in view Waelbroeck U.S Pub:20020010672A1.

As per claim 1-14, Lupien discloses a method of directing a securities trade order to a particular market method comprising:

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receiving trade execution quality preference information supplied by a user (see column 7 lines 15-53) receiving an order for at least one securities trade from said user (see column 6 lines 14-22).

Lupien fail to explicitly teach comparing said user supplied trade execution quality preference information to at least one statistical measure for each of a plurality of market centers, and routing said order to one of said plurality of market of market centers as a function of said comparison.

However Waelbroeck discloses the probability that a MP in the dissemination list would execute an order can be calculated from data on how similar order routing events have unfolded in the past. This is required when some MPs have been included in the dissemination list due to information on orders while others are in the list due to information on trades, so that there is no single comparable number that can be used to rank one relative to the other, and when the MPs differ significantly in how they respond to notifications. For example if an institutional desk such as RSSF has been a net buyer in the past hour, it is likely to continue to buy, but if a retail Market Maker such as NITE has been a net buyer, it may need to reverse course and return to a neutral inventory position--so that would not be such a good target for a sell order. Another example of case is one where an order is routed based on displayed size: again, different MPs will react differently to an oversized order. Orders displayed in institutional ECNs such as Instinet are more likely to have reserve size than retail-centric ECNs, and different Nasdaq Market Makers will have different rules on when to accept non-liability orders. In both cases (1) and the system relies on a database of past events where orders were routed to given MPs and either executed (in part or in whole) or rejected. The probability of execution can be estimated from this statistical sample-set using a statistical estimator method that is described below. If there is not enough past data on a given MP to compute the probability of execution, the MP is assumed to behave like the average MP and data from all MPs is used to determine the "generic" probability of execution, which is then used to rank this MP in the dissemination list. (see column 3 paragraph 0076, 0012, 0024, and column 15 lines 15 claim 10,18, and 28-29).

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Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Lupien to include comparing said user supplied trade execution quality preference information to at least one statistical measure for each of a plurality of market centers, and routing said order to one of said plurality of market of market centers as a function of said comparison taught by Waelbroeck in order to provide an predictive routing system for user trading of securities.

As per claims 15-19, Lupien discloses a method of placing an order to trade at least one security, said method comprising:
providing user-defined trade execution quality preference(see column 7 lines 15-53) information to a broker/dealer (see column 1 lines 27-40), selecting at least one security for trading and transmitting an order for trading said security (see column 6 lines 14-22). to a broker/dealer(see column 1 lines 27-40).

Lupien fail to explicitly teach said order is carried out at a preferred one of a plurality of market centers, said preferred market center being selected as a function of a comparison of said user-defined trade execution quality preference information with at least one statistical measure for each of said plurality of market centers.

However Waelbroeck discloses the probability that a MP in the dissemination list would execute an order can be calculated from data on how similar order routing events have unfolded in the past. This is required when some MPs have been included in the dissemination list due to information on orders while others are in the list due to information on trades, so that there is no single comparable number that can be used to rank one relative to the other, and when the MPs differ significantly in how they respond to notifications. For example if an institutional desk such as RSSF has been a net buyer in the past hour, it is likely to continue to buy, but if a retail Market Maker such as NITE has been a net buyer, it may need to reverse course and return to a neutral inventory position--so that would not be such a good target for a sell order. Another example of case is one where an order is routed based on displayed size: again, different MPs will react differently to an oversized order. Orders displayed in institutional ECNs such as Instinet are more likely to have reserve size than retail-centric ECNs, and different

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Nasdaq Market Makers will have different rules on when to accept non-liability orders. In both cases (1) and the system relies on a database of past events where orders were routed to given MPs and either executed (in part or in whole) or rejected. The probability of execution can be estimated from this statistical sample-set using a statistical estimator method that is described below. If there is not enough past data on a given MP to compute the probability of execution, the MP is assumed to behave like the average MP and data from all MPs is used to determine the "generic" probability of execution, which is then used to rank this MP in the dissemination list. (see column 3 paragraph 0076, 0012, 0024, and column 15 lines 15 claim 10,18, and 28-29).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Lupien to include said order is carried out at a preferred one of a plurality of market centers, said preferred market center being selected as a function of a comparison of said user-defined trade execution quality preference information with at least one statistical measure for each of said plurality of market centers taught by Waelbroeck in order to provide an predictive routing system for user trading of securities.

As per claims 20-33, Lupien discloses a system for routing orders in financial market comprising:

a computer device configured to receive trade execution quality preference information supplied by a user (see column 7 lines 15-53) and further configured to receive an order for at least one securities trade from said user (see column 6 lines 14-22).

Lupien fail to explicitly teach a database configured to store at least one statistical measure for each of a plurality of market centers and a processor device, in communication with said computer device and said database, configured to compare said user-supplied trade execution quality preference information to at least one statistical measure for each of said plurality of market centers and further configured to route said order to one of said plurality of market centers as a function of said comparison.

However Waelbroeck discloses the probability that a MP in the dissemination list would execute an order can be calculated from data on how similar order routing events have unfolded in the past. This is required when some MPs have been included in the

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dissemination list due to information on orders while others are in the list due to information on trades, so that there is no single comparable number that can be used to rank one relative to the other, and when the MPs differ significantly in how they respond to notifications. For example if an institutional desk such as RSSF has been a net buyer in the past hour, it is likely to continue to buy, but if a retail Market Maker such as NITE has been a net buyer, it may need to reverse course and return to a neutral inventory position--so that would not be such a good target for a sell order. Another example of case is one where an order is routed based on displayed size: again, different MPs will react differently to an oversized order. Orders displayed in institutional ECNs such as Instinet are more likely to have reserve size than retail-centric ECNs, and different Nasdaq Market Makers will have different rules on when to accept non-liability orders. In both cases (1) and the system relies on a database of past events where orders were routed to given MPs and either executed (in part or in whole) or rejected. The probability of execution can be estimated from this statistical sample-set using a statistical estimator method that is described below. If there is not enough past data on a given MP to compute the probability of execution, the MP is assumed to behave like the average MP and data from all MPs is used to determine the "generic" probability of execution, which is then used to rank this MP in the dissemination list. (see column 3 paragraph 0076, 0012, 0024, and column 15 lines 15 claim 10,18, and 28-29).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Lupien to include database configured to store at least one statistical measure for each of a plurality of market centers and a processor device, in communication with said computer device and said database, configured to compare said user-supplied trade execution quality preference information to at least one statistical measure for each of said plurality of market centers and further configured to route said order to one of said plurality of market centers as a function of said comparison taught by Waelbroeck in order to provide an predictive routing system for user trading of securities.

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As per claims 34-47, Lupien discloses a readable medium comprising instructions for directing a securities trade order to a particular financial market, said instructions comprising:

instructions for receiving trade execution quality preference information supplied by a user (see column 7 lines 15-53) and instructions for receiving an order for at least one securities trade from said user (see column 6 lines 14-22).

Lupien fail to explicitly teach instructions for comparing said user supplied trade execution quality preference information to at least one statistical measure for each of a plurality of market centers, and routing said order to one of said plurality of market of market centers as a function of said comparison.

However Waelbroeck discloses the probability that a MP in the dissemination list would execute an order can be calculated from data on how similar order routing events have unfolded in the past. This is required when some MPs have been included in the dissemination list due to information on orders while others are in the list due to information on trades, so that there is no single comparable number that can be used to rank one relative to the other, and when the MPs differ significantly in how they respond to notifications. For example if an institutional desk such as RSSF has been a net buyer in the past hour, it is likely to continue to buy, but if a retail Market Maker such as NITE has been a net buyer, it may need to reverse course and return to a neutral inventory position--so that would not be such a good target for a sell order. Another example of case is one where an order is routed based on displayed size: again, different MPs will react differently to an oversized order. Orders displayed in institutional ECNs such as Instinet are more likely to have reserve size than retail-centric ECNs, and different Nasdaq Market Makers will have different rules on when to accept non-liability orders. In both cases (1) and the system relies on a database of past events where orders were routed to given MPs and either executed (in part or in whole) or rejected. The probability of execution can be estimated from this statistical sample-set using a statistical estimator method that is described below. If there is not enough past data on a given MP to compute the probability of execution, the MP is assumed to behave like the average MP and data from all MPs is used to determine the "generic" probability of

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execution, which is then used to rank this MP in the dissemination list. (see column 3 paragraph 0076, 0012, 0024, and column 15 lines 15 claim 10,18, and 28-29).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Lupien to include instructions for comparing said user supplied trade execution quality preference information to at least one statistical measure for each of a plurality of market centers, and routing said order to one of said plurality of market of market centers as a function of said comparison taught by Waelbroeck in order to provide an predictive routing system for user trading of securities.

Conclusion

4. The prior art of record and not relied upon is considered pertinent to Applicants disclosure.

Liddy Eder (US 6, 026, 388 Patent) teaches user interface and other enhancements for natural language information retrieval system and method.

Kohorn (US Patent 5,508, 731) teaches generation of enlarged participatory broadcast audience.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clement B Graham whose telephone number is 703-305-1874. The examiner can normally be reached on 7am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S. Sough can be reached on 703-308-0505. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-0040 for regular communications and 703-305-0040 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

CG

January 23, 2005


FRANTZY POINVIL
PRIMARY EXAMINER
AU 3628